FORM PTO-1449

**INFORMATION DISCLOSURE CITATION
IN AN APPLICATION PURSUANT TO
37 CFR §1.97 & 1.98**

Docket Number: 4015-5133	Serial Number: 10/720,492
Applicant: Fulghum et al.	
Filing Date: 11/24/03	Group:

U. S. PATENT DOCUMENTS

Examiner Initial		Patent No.	Date	Name	Class	Subcl	Filing Date If Approp.
/KMB/	A	6,363,104	2002	Bottomley			
	B	6,026,115	2000	Higashi et al.			
	C	5,983,105	1999	Stahle			
	D	5,757,791	1998	Kanterakis et al.			
/KMB/	E	5,506,861	1996	Bottomley			

FOREIGN PATENT DOCUMENTS

		Patent No.	Date	Name	Class	Subcl	Translation Yes	No
/KMB/		WO 00/72459	2000	Aazhang, Behnaam				

OTHER DOCUMENTS (including author, title, date, pages, etc.)

/KMB/	A	Pub. No.: US 2002/0122470 A1, Pub. Date: Sep. 5, 2002, "Method and Apparatus for Providing Blink Adaptive Estimation and Reception," Heikkila.
	B	D.M. Novaković and M. L. Dukić, "Multistage multiuser detector for DS-CDMA multipath fading channel," *Electronics Letters*, vol. 34, no. 11, 28 May 1998, pp. 1068-1070.
	C	Z. Xie, R.T. Short, and C.K. Rushforth, "A family of suboptimum detectors for coherent multiuser communications," *IEEE J. Sel. Areas Commun.*, vol. 8, pp. 683-690, May 1990.
	D	S. Tantikovit, A.U.H. Sheikh and M.Z. Wang, "Combining schemes in rake receiver for low spreading factor long-code WCDMA systems," *Electronic Letters*, vol. 36, no. 22, 26 Oct. 2000, pp. 1872-1874.
	E	S. Tantikovit and M.Z. Wang, "An optimum combining and concatenated-RAKE for dual-antenna mobile terminals in UMTS," *IEEE Commun. Letters*, vol. 6, pp. 231-233, June 2002.
	F	C.B. Papadias and H. Huang, "Linear space-time multiuser detection for multipath channels," *IEEE J. Sel. Areas Commun.*, vol. 19, pp. 254-265, Feb. 2001.
	G	A. Klein, G.K. Kaleh, and P.W. Baier, "Zero forcing and minimum mean- square-error equalization for multiuser detection in code-division multiple-access channels," *IEEE Trans. Veh. Technol.*, vol. 45, pp. 276-287, May 1996.
	H	X. Wang and H.V. Poor, "Space-time multiuser detection in multipath CDMA channels," *IEEE Trans. Sig. Proc.*, vol. 47, pp. 2356-2374, Sept. 1999.
/KMB/	I	M. Juntti, "Performance analysis of linear multisensor multiuser receivers for CDMA in fading channels," *IEEE J. Sel Area Commun.* vol. 18, pp. 1221-1229, July 2000.

/Kevin M Burd/   03/29/2007

/KMB/	I	"Extended MMSE receiver for multisuer interference rejection in multipath DS-CDMA channels," in *Proc. IEEE Veh. Technol. Conf.*, Amsterdam, The Netherlands, Sept. 19-22, 1999, pp. 1840-1844.
	K	W. L. Myrick, S. Sud, J.S. Goldstein, and M.D. Zoltowski, "MMSE correlator based RAKE receiver for DS-CDMA," in *Proc. Milcom 2001*, pp. 1418-1422.
	L	S.S.H. Wijayasuriya, J.P. McGeehan, and G.H. Norton, "Rake decorrelating receiver for DS-CDMA mobile radio networks," *Electronics Letters*, vol. 29, no. 4, pp. 395-396, 18 February 1993.
	M	S.S.H. Wijayasuriya, J.P. McGeehan, and G.H. Norton, "Rake decorrelation as an alternative to rapid power control in DS-CDMA mobile radio," 43rd IEEE Vehicular Technology Conf., Secaucus, NJ, pp. 368-371, May 18-20, 1993.
	N	G. Bottomley, T. Ottoson, and Y.-P. E. Wang, "A generalized RAKE receiver for interference suppression," *IEEE J. Sel. Areas Commun.*, vol. 18, pp. 1536-1545, August, 2000.
	O	M. Juntti, and B. Aazhang, "Finite memory-length linear multiuser detection for asynchronous CDMA communications," *IEEE Trans. Commun.*, vol. 45, pp. 611-622, May 1992.
	P	Deng et al., "A Multistage Multi-Carrier CDMA Receiver with Enhanced Interference Suppression," 3rd IEEE Signal Processing Workshop on Signal Processing Advances in Wireless Communications, Taiwan, March 20-23, 2001.
	Q	Sukvasant et al., "A new RAKE receiver structure for the forward-link of W-CDMA systems," *IEICE Transactions on Communications*, vol. E85-B, no. 6, pp. 1218-22, June 2002, ISSN 0916-8516.
	R	D.M. Novaković and M.L. Dukić, "Multistage multiuser detector for multipath fading channel," European Transactions on Telecommunications, vol. 12, no. 6, pp. 471-8, Nov-Dec 2001, ISSN 1120-3862.
	S	Irfan Ghauri and Kirk T.M. Slock, "Linear Receivers for the DS-CDMA Downlink Exploiting Orthogonality of Spreading Sequences," Proc. 32nd Asilomar Conf. on Signals, Systems 8c Computers, Pacific Grove, CA, Nov. 1998.
	T	H. Hadinejad-Mahram and G. Alirezaei, "A Linear Receiver for WCDMA Downlink Exploiting the Coloration of the Interference," 0-7803-7661-7/03/$17.00©2003 IEEE
	U	H. Huang and S. Schwartz, "A Comparative Analysis of Linear Multiuser Detectors for Fading Multipath Channels," presented at Globecom '94 conference, 1994 IEEE, pp. 11-15.
	V	S. Tantikovit and A. U. H. Sheikh, "Joint Multipath Diversity Combining and MLSE Equalization (Rake-MLSE Receiver) for WCDMA Systems," presented at VTC2000, 2000 IEEE, pp. 435-439.
	W	J.G. Proakis, Digital Communications, 2nd edition, section 7.5.
/KMB/	X	E. Dahlman and M. Sawahashi, "13.3G Evolution and Future-Generation Air Interface in Mobile Communications"

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U. S. PATENT DOCUMENTS

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/KMB/	A	2003/067968	2003	Gatherer et al.			

FOREIGN PATENT DOCUMENTS

Examiner Initial		Patent No.	Date	Name	Class	Subcl	Translation Yes	No
/KMB/	B	GB 2384665	2003	Toshiba Research Europe Ltd.				

OTHER DOCUMENTS (including author, title, date, pages, etc.)

/KMB/	C	Kutz, G. et al: "Low Complexity Implementation of a Downlink CDMA Generalized Rake Receiver" VTC 2002-Fall. 2002 IEEE 56th. Vehicular Technology Conference Proceedings. Vancouver, Canada, Sept. 24-28, 2002, IEEE Vehicular Technology Conference, New York, NY: IEEE, US, vol. 1 of 4, Conf. 56, 24 September 2002, pages 1357-1361, XP010608650 ISBN: 0-7803-7467-3.

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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation not in conformance and not considered. Include copy of this form with next communication to the applicant.